CLASSIFICATION SECRET/SECURITY INFORMATION

CENTRAL INTELLIGENCE AGENCY

REPORT

INFORMATION REPORT

50X1-HUM

COUNTRY USSR

SECRET

DATE DISTR. 21 Feb 52

SUBJECT Tank Gunnery and Training in the Soviet Army

NO. OF PAGES 6

PLACE ACQUIRE

NO. OF ENCLS. (LISTED BELOW)

DATE ACQUIRE

SUPPLEMENT TO REPORT NO.

50X1-HUM

DATE OF

THIS IS UNEVALUATED INFORMATION

Men assigned to the tank units are the same age as any other unit, 18 years of age on induction. However, tankers, like members of other technical and semi-technical branches like Artillery, Navy and Air Force, have a somewhat better educational background than those men assigned to branches like Infantry. Most tankers have from 6-8 years formal education. A concerted effort is made to obtain men for these technical and semi-technical services who have some mechanical background, that is to say, mechanics, machinists, etc. There is no special bonus or special honor in serving with armored forces during peacetime. However, during wartime there are certain privileges and premiums which go with outstanding services of various types but of course, this doesn't hold true for armored forces only. As an example, if a tank gunner is particularly good and knocks out a number of enemy tanks he may receive a bonus, either in money or in special privileges like extra furloughs. In some cases he may be paid this bonus with goods like vodka.

Guard units received extra pay during World War II but no longer receive any extra pay, merely extra privileges. Medals of various types brought extra pay and privileges during the war. In peacetime, medals awarded are for such things as outstanding gunnery or special skill in any one of the military arts practiced by the soldier. Depending on the personality of the commander of a man's unit he may receive extra privileges like an extended furlough, a special award or a letter of commendation, but no extra pay.

50X1-HUM

2.

Tank crewmen are not trained in centers as such. That is to say there is not a separate garrison set aside for tank training only. Tank crewmen are trained within the division to which they are assigned after induction, where several hundred tankers may be trained at one time according to training directives received from higher headquarters. Some divisions are designated as training divisions, others as combat-ready divisions. Based upon the training directives received from higher headquarters, the training division commander establishes the curriculum and individual soldiers are assigned to the various subordinate units of the division for individual basic training which lasts usually from two to three months. This individual basic training consists mainly of learning the "School of the soldier",

CLASSIFICATION SECRET/SECURITY INFORMATION

STATE	X	NAVY	X	DISTRIBUTION															
ARMY	X	AIR	X	AEC	X	FBI	X												

FORM NO. 51-40 (20)

SECRET

50X1-HUM

50X1-HUM

personal indoctrination, personal hygiene, map and compass reading, etc. After completing this basic training the soldier is selected for training as a specific tank crewman, at which time he begins training under the supervision of one of the division schools where instruction is given by committees of specialists in that particular field. This training may last from nine months to a year, at the conclusion of which the individual is assigned to a unit where small unit training commences and gradually leads into larger unit training in field exercises and maneuvers.

for the gunners themselves about 35% is actually spent on the tank guns alone; the rest being spent on theories of various types. Of the hours spent on tank gunnery, they probably can be broken down in approximately the following manner: one-fourth, ballistics; one-fourth, materiel; one-fourth, practical firing exercises; one-fourth miscellaneous (range estimation, manipulation, etc). The objective of all training is complete mastery of a particular tank crewman's position. However, each tank crewman is given some familiarization with all of the other tank crew positions in order to replace casualties in combat. Particular emphasis is placed on making all tank crew members capable of replacing gunners. Although tankers are taught to fight their tanks as individuals, stress is placed on mass fire of tank platoons and companies.

3.

There is no difference whatsoever in training the tank crews. The mission is different, of course, for the employment of tanks with each of the above.

4.

The tank commander, as the name implies, is in absolute control of his particular tank and the gunner is subordinate to him. The tank commander therefore, does the adjusting of fire. However, if the tank commander for some reason or other has not observed the strike or impact and the gunner has, the gunner may go ahead and adjust his own fire.

5.

The principle is that the hatches on tanks are kept open as long as possible. The very obvious reasons being that visibility is limited when the hatch is closed, the driver can not see as well, therefore limiting mobility of the tank, and reducing overall observation of the tank commander.

50X1-HUM

6.

tank gunners and tank commanders are taught to fire by indirect fire methods, but tanks are not used too often in this capacity because of course one of the primary characteristics of armor is mobility, which is sacrificed when a tank is placed in an indirect fire mission.

7.

Tank guns in indirect fire, particularly in defense, are usually sited according to predesignated fire positions which are outlined on the "Tankers Card". The "Tankers Card" diagramatically, shows routes of approach, reference points, firing sites, critical areas, etc. Each commander passes on to his subordinate, information from this card which is copied in detail. Targets at more than 2000 to 2500 meters are considered profitable indirect fire missions. Area fire is normally undertaken rather than precision adjustment. There is an azimuth indicator which is graduated in one mil increments from one through 60 mils. There are 6000 mils in a complete circle. Therefore, each complete revolution of the azimuth indicator is one-tenth of a circle. This indicator is magnetic and the dial can be zeroed so that the needle is pointing to North at the beginning of the problem. This azimuth indicator is not an integral part of the tank and is dismounted, by the tank commander or platoon leader, to be used as the directional laying device when firing indirect. Gunners are trained in basic arithmetic and the use of the azimuth indicator while in their basic training at division schools. The method of measuring vertical angles is by use of an elevation quadrant which is mounted on the gun carriage. This elevation quadrant is graduated in one mil increments, sixty mils either up or down. All tank commanders are taught to ob-

50X1-HUM

serve and adjust artillery fire and of course all infantry commanders can adjust mortar fire for which fire commands and adjustment are the same as for artillery.

8.

gyro-stabilizers are being developed for use on all tanks and all calibers of guns.

9.

The tank fire command for direct fire is as follows:

Target, direction, range, ammunition, command to fire.

For indirect fire the azimuth is given first and occasionally between the type of ammunition and the command to fire, instructions are given for the type of fire desired, that is, "Volley of three rounds", as an example.

10.

At short ranges there should be no need for adjustment because tanks are supposed to obtain first round hits only, artillery and mortars are not accurate enough and require lengthy adjustment. However, when adjustment is necessary with tank firing, changes in deflection are given first then range changes. Speed of adjustment is stressed in getting the second round on the target. No attempt is made to get an over and a short as in artillery except when in trying to determine the exact range to target in order to relay the information to other tanks. The correction is given by the tank commander, directed to the target itself, and the gunner assists the tank commander by making small changes in the sight picture as seen through his telescope. Placing burst on target is the preferred method of fire in both HE and AP adjustment. Bracketing is not desired at all except in the case cited above.

11.

50X1-HUM

At the present time there is no range finder mounted in Soviet tanks. It is rumored however, that one is being developed. There are no details known as to how it operates. The most common method of range estimation is by use of binoculars, using the mil scale which is in the reticule of the binocular.

12.

The only radar presently used in tank units is at tank or mechanized division headquarters. This radar is primarily used for tracking enemy aircraft. It may also be used for maintaining control and contact with friendly aircraft. There has been no use made of radar so far as is known in locating targets or in counter-battery fire.

13.

It is generally known that the US has infrared equipment and Soviets are told to watch out for it. However, the Soviets are at present not furnished with infra-red equipment.

14.

Night firing is held to a minimum inasmuch as this is out of character for tanks. Only in approach marches is night movement common and night firing is at present inaccurate because the sights are not fitted with any kind of light. Previous reconnaissance is necessary and the "tankers card" will show ranges and azimuths to previously selected targets and target areas. If no time has been available for reconnoitering of this type, tank fire is indiscriminate, or targets are located and pointed out to tanks by use of smoke or tracers.

the HEAT round is not a standard projectile for tanks. However, experimentation is underway and production continuing in order to make HEAT ammunition standard for all calibers of tank and self-pr lled weapons. There are seven types of ammunition available for both T-34 and JS-3 tanks. These are HE, delay and super quick, HE time fuze, cannister-shrapnel, with or without time fuze, AP and APC, with and without explosive element, HVAP, Smoke, WP and HC.

16.

Electrical power traverse is used in both tanks. However, the details of construction and operation are not available. The tank commanders probably do have a power traverse handle and can take the action away from the gunners.

17.

The ammunition for a 122-mm tank gun is, of course, separate loading which naturally simplifies the matter of loading, but further aid is provided the loader in the form of a tray which is suspended from the ceiling by chains and is run on a trolley. The projectile and casing are loaded on this tray, swung over to the breech and rammed into the chamber manually. The tray is then moved out of the way while the piece is fired. The breech block closes automatically and ejects empty brass on counter recoil.

18.

The crew of the JS-3 consists of nine men and actually each tank is considered a platoon. The crew is broken down as follows: platoon (tank) commander, mechanic-driver, assistant mechanic, gun commander, gunner, radioman, machine gunner, and two loaders.

19.

Naturally, use of all of the various types of visual communications, flags, rockets, flares, smoke, tracers is made to a great extent, these being the most definite means of designating targets and establishing boundaries for tanks. Within the tank itself, interphone communication system is used which gives the tank crew members communication among themselves, but not radio communication with other tanks. The tank commander can communicate by radio with other tanks in the platoon and with the platoon leader, but great dependence is placed upon visual contact and hand and arm signals. Tel phones are available at battalion level and above in armored units. Communicati n between tanks and infantry by radio is carried out at regimental level. Below regimental level visual means or messengers are used. When tanks are supporting infantry, the boundaries for the tanks are outlined for them by tracers from the infantry weapons. Tanks and artillery can be brought together by radio communication on a common frequency, but this is not ordinarily done because each of the forward observers from the artillery will be in communication with his parent battalion. Communication between tanks and aircraft is accomplished at a division level by radio and below that level with panels, smoke, etc.

50X1-HUM

20.

major emphasis in firing is placed on the employment of a tank platoon as a single firing unit. Only on rare occasions when the terrain demands, would a tank be called upon to fire singly. The normal fire command begins with the tank platoon leader alerting his platoon for a fire mission by calling "platoon", or if only two tanks of his platoon are in a position to fire, he may call "tanks number two or three" or some such similar order. He then continues with his fire command which has been explained.

21.

No malfunction worth mentioning in any of these tank guns has been observed.

22.

50X1-HUM

T-34	JS-3
Graduated turret ring	Graduated turret ring
Azimuth indicator	Azimuth indicator
Quadrant (gunner's mounted)	Quadrant (gunner's mounted)
Quadrant, M1 (equivalent)	Quadrant, M1 (equivalent)
Telescopic sight	Telescopic sight
Periscopic sight	Periscopic sight

All of the above except for the quadrant, M1 are to be found in both tanks. The perescopic sight is of a low power magnification but has the same reticule for the telescopic sight and the periscopic sight.

50X1-HUM

23.

There is no standard basic load prescribed for eadh type tank under all conditions. There are certain tables however, which give different basic loads of ammunition for different types of action; attack, defense, exploitation, etc.

24.

Extensive use is made of cards in the Soviet tank forces. Of course the tank commander has a card, called a "tanker's card" which indicates his route of advance to positions to which he is to move, action at these positions, reference points for range and deflection to various targets, location of assembly areas, supply points, etc. The gunner keeps a card which shows some of the elements on the tanker's card, obtained from the tank commander, plus any further notes such as compensations or deviations to be taken into consideration in the use of his sights. The loader of course must consult his firing data card to determine time, fuze setting, etc.

25.

26.

The amount of time in actual firing is not considered. There are certain courses and certain tests which must be completed by the tank gunner in training in order to be qualified as a tank gunner regardless of the time it takes him to complete it. These courses or tests consist mainly of speed and accuracy in placing the gun on the target. Many, many small tests are conducted with no ammunition whatsoever. A fire command is given and the gunner is expected to lay the gun accurately and quickly after which the tank commander or instructor checks the sight picture for lay of gun. After having progressed to the extent where the tank commander or the instructor is satisfied with the time in which the gunner takes to lay his piece, the subcaliber training begins with the co-axial machine gun. Only after achieving efficiency in manipulation and speed in subcaliber firing, is service firing of the gun allowed. it takes at least two years to train a good tank gunner to combat readiness. However, during combat in World War II tank gunners were put into the line with only two to three days training.

50X1-HUM

27. the range of tank radios

No general figure is known; however, no difficulty is experienced at ranges of 10 kilometers or less.

50X1-HUM

28.

Primary emphasis is placed on team work. After the tank crew members have finished their different schools in their specialty, they are assigned to one of the tank regiments as members of a specific crew. After this assignment, and for the remainder of their three years compulsory military service, every attempt is made to prevent breaking up these assigned crews and an entry is made on the man's record as to which company or in which regiment he served during this period of time so that in case of recall to active duty there would be a better chance of reforming "old teams".

[redacted]

[redacted] the ammunition bore is safe and recoil is adequate. However, no specific figure as to characteristics of the recoil are known. No difficulties encountered with recoil mechanisms are known.

50X1-HUM

30. [redacted]

[redacted] the tank can fire while on the move and thereby take advantage of two of its characteristics, mobility and shock action, but the preferred method is to stop and fire. Tank crews are trained in the principles of firing on the move both at moving targets and stationary targets.

31. [redacted]

Any gun, of course, is only as accurate as its gunner is skilled. [redacted] As to the range at which the tank gunner opens fire there actually is no limit. It depends mainly on the situation. Mostly, firing commences on the target's coming in sight which of course may be at any range depending on atmospheric conditions and terrain. Naturally, there are times when the tanks are placed in ambush and firing is undertaken only at point blank range.

-end-